**Honors Bio Study guide for quiz on Bohr models, Water Properties, and macromolecules**

*Use Chapter 2 for reference*

Be able to:

* Create Bohr models
* What is pH? What is an acid? A base?
* Define and differentiate between covalent, ionic, and hydrogen bonds and give examples of each

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| Covalent bonds | Ionic bonds | Hydrogen bonds |
| When atoms share a pair of electrons | Attraction of oppositely charged ions | Attraction due to oppositely charged regions (specifically slightly positive hydrogen atom and a slightly negative atom) |

* Draw a water molecule, label the charges, which atoms are hydrogen, which is oxygen
* Draw at least five water molecules and accurately depict the hydrogen bonds
* Explain why water is polar / what polarity is
* Explain what hydrogen bonds are and how they make water have
  + high specific heat, cohesion, and adhesion
* Give examples of water properties in life
  + ex. salt (NaCl) dissolving in water due to water’s polarity
* Explain why nonpolar molecules do not dissolve in water
* Understand and be able to explain scientifically what you did in the water lab
  + Celery in food-dyed water
  + Tap vs. salt water on penny
  + Graph
* What are the four types of macromolecules (carbon-based) and their main functions? What are their monomers?
* Enzymes: what are they? How do they function?

Check out: “The Chemistry of Water” <http://www.youtube.com/watch?v=DAilC0sjvy0>